

**ABSTRACT**

The present invention provides a system for controlling speed of the fuel pump. The system includes a fuel pump, a controller, and a field modification module. The fuel pump is configured to receive a driving signal causing the fuel pump to pump fuel. The controller is configured to determine a desired fuel pump speed and generate a control signal based on the desired fuel pump speed. The field modification module is located proximate the fuel pump and is in communication with the controller to receive the control signal. The field modification module generates a flux in response the control signal thereby controlling speed and torque of the fuel pump.